CLAIMS

We claim

1. A method comprising

generating an integrated circuit design;

creating a design database containing design data for each layer of the design;

creating context information for features of a layer of the design;

analyzing the context information to identify important attributes of features of the layer;

partitioning the layer into a plurality of stripes;

assigning each feature to one or more of the plurality of stripes based upon the importance of the attributes of the feature; and

devising a writing plan to write each feature within the corresponding stripe.

2. The method of claim 1, wherein analyzing the context information to identify important features comprises

identifying important attributes of the design; and

identifying polygons with the important attributes.

3. The method of claim 2, further comprising

dividing each important polygon into a plurality of shapes; and

for each polygon, identifying shapes with important attributes.

4. The method of claim 3, wherein assigning each feature to one stripe comprises

assigning each shape to one or more stripes, consistent with the attributes of each shape.

5. The method of claim 1, wherein analyzing the context information to identify important features comprises

displaying the design data for the layer to a user;

displaying the context information for the features of the layer to the user;

receiving an identification of the important attributes of features from the user.

6. The method of claim 5, wherein assigning each important feature to one of the stripes comprises

receiving an assignment of the feature to one stripe from the user.

7. The method of claim 6, further comprising

calculating a writing time for the writing plan.

8. The method of claim 7, further comprising

accepting or rejecting the writing plan based on the writing time.

9. The method of claim 1, wherein analyzing the context information to identify important features comprises

automatically locating important features of the layer based on the context information.

10. The method of claim 9, wherein partitioning the layer into a plurality of stripes comprises

automatically generating partitions so that each important feature is within one of the stripes.

11. The method of claim 10, further comprising

calculating a writing time for the writing plan.

12. The method of claim 11, further comprising

accepting or rejecting the writing plan based on the writing time.

13. A system comprising

means for generating an integrated circuit design;

means for creating a design database containing design data for each layer of the design;

means for creating context information for features of a layer of the design;

means for analyzing the context information to identify the important attributes of features of the layer;

means for partitioning the layer into a plurality of stripes;

means for assigning each feature to one or more of the plurality of stripes, based upon its attributes; and

means for devising a writing plan to write each important feature within the corresponding stripe.

14. The system of claim 13, wherein said means for analyzing the context information to identify important features comprises

means for identifying important attributes of the design; and

means for identifying polygons with the important attributes.

15. The system of claim 14, further comprising

means for dividing each important polygon into a plurality of shapes; and

means for identifying shapes with the important attributes for each polygon.

16. The system of claim 15, wherein said means for assigning each important feature to one stripe comprises

means for assigning each shape with the important attributes to one stripe.

17. The system of claim 13, wherein said means for analyzing the context information to identify important features comprises

means for displaying the design data for the layer to a user;

means for displaying the context information for the features of the layer to the user;

means for receiving an identification of the important features from the user.

18. The system of claim 17, wherein said means for assigning each important feature to one of the stripes comprises

means for receiving an assignment of the feature to one stripe from the user.

19. The system of claim 18, further comprising

means for calculating a writing time for the writing plan.

20. The method of claim 19, further comprising

means for accepting or rejecting the writing plan based on the writing time.

21. The system of claim 13, wherein said means for analyzing the context information to identify important features comprises

means for automatically locating important features of the layer based on the context information.

22. The system of claim 21, wherein said means for partitioning the layer into a plurality of stripes comprises

means for automatically generating partitions so that each important feature is within one of the stripes.

23. The system of claim 21, further comprising

means for calculating a writing time for the writing plan.

24. The system of claim 23, further comprising

means for accepting or rejecting the writing plan based on the writing time.

25. A method comprising:

generating integrated circuit design data having a plurality of polygons;

determining context information from the integrated circuit design data; and

analyzing features of the design data with the context information to distinguish important attributes of features from unimportant attributes and features.

26. The method of claim 25 further comprising:

adjusting a mask writing process to write each feature with an accuracy commensurate with the attributes of that feature.

27. The method of claim 25 wherein context information for the design features comprises:

information for neighboring geometries, electrical intent of the features, timing of the intended circuit, redundant features, and relationships of a given feature to neighboring features.

28. The method of claim 25 further comprising:

identifying an importance of a given feature, or of a given attribute of a given feature, relative to other features of the design based on context information.

29. The method of claim 28, wherein the relative importance is identified with context information comprising:

a reason for locating the feature in a particular place within the design, an intended use of the feature within the design, and electrical requirements of the feature within the design.

30. A system comprising:

means for generating integrated circuit design data having a plurality of polygons;

means for determining context information from the integrated circuit design data; and

means for analyzing features of the design data with the context information to distinguish important attributes of features from unimportant attributes.

31. The system of claim 30 further comprising:

means for adjusting a mask writing process to write the each features with an accuracy commensurate with the attributes of that feature .

32. The system of claim 30 wherein context information for the design features comprises:

information for neighboring geometries, electrical intent of the features, timing of the intended circuit, redundant features, and relationships of a given feature to neighboring features.

33. The system of claim 30 further comprising:

means for identifying an importance of a given feature relative to other features of the design based on context information.

34. The system of claim 33, wherein the relative importance is identified with context information comprising:

a reason for locating the feature in a particular place within the design, an intended use of the feature within the design, and electrical requirements of the feature within the design.